

Attorney Docket No.: 0160112
Application Serial No.: 10/799,533

REMARKS

This is in response to the *Final* Office Action of September 30, 2008, where the Examiner has rejected claims 1-11, 13, 15, 17-27, 29, 31, 33-36, 39-43, 46, 48, 49 and 51-56. An early allowance of outstanding claims 1-11, 13, 15, 17-27, 29, 31, 33-36, 39-43, 46, 48, 49 and 51-56 in view of the following remarks is requested.

A. Rejection of Claims 1, 3-5, 7-11, 13, 15, 17, 19-21, 23-27, 29, 31, 33-36, 39-43, 46, 48, 51, 53 and 55 under 35 USC § 103(a)

The Examiner has rejected claims 1, 3-5, 7-11, 13, 15, 17, 19-21, 23-27, 29, 31, 33-36, 39-43, 46, 48, 51, 53 and 55, under 35 USC § 103(a), as being unpatentable over Bergstrom, et al. (USPN 5,809,459) ("Bergstrom") in view of Andersen, et al. (PGPUB 2006/0153286) ("Andersen"), and further in view of Zinser, Jr. et al. (USPN 6,138,092) ("Zinser") and Tucker, et al. (USPN 6,675,144) ("Tucker").

Applicant acknowledges and appreciates the Examiner's withdrawal of the finality of the previous Office Action in view of applicant's remarks.

Claim 1 of the present application recites: "decomposing said input wideband speech signal into a voiced portion and a noisy portion using an adaptive separation component having a filter cut-off frequency, wherein said voiced portion is a portion of said input wideband speech signal for waveform matching and said noisy portion is a portion of said input wideband speech signal not for waveform matching, and wherein said filter cut-off frequency is above 4 kHz."

Applicant respectfully submits that the alleged combination of the four cited references fails to disclose, teach or suggest the above limitations of claim 1.

As acknowledged by the Examiner, Bergstrom "does not specifically teach decomposing

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said input wideband speech signal” using an adaptive separation component having a filter cut-off frequency to determine a voiced portion and a noisy portion, as recited in claim 1. (Office Action, pages 3-4.) However, the Office Action alleges that Andersen discloses decomposing the wideband speech signal into a voiced portion for waveform matching and said noisy portion not for waveform matching. (Office Action, page 4.) Applicant respectfully disagrees. It is respectfully submitted that Andersen fails to disclose, teach or suggest that an adaptive separation component having a filter cut-off frequency is used to determine a voiced portion and a noisy portion for the purpose of deciding which portion of the speech signal is for waveform matching and which portion of the speech signal is not for waveform matching. To this end, applicant respectfully submits that the Office Action relies upon the disclosure at paragraphs [0043] and [0045] of Andersen, which read:

[0043] The essence of the coder is linear predictive coding (LPC) as is well known from adaptive predictive coding (APC) and code excited linear prediction (CELP). A coder according to the present invention, however, uses a start state, i.e., a sequence of samples localized within the signal block to initialize the coding of the remaining parts of the signal block. The principle of the invention complies with an open-loop analysis-synthesis approach for the LPC as well as the closed-loop analysis-by-synthesis approach, which is well known from CELP. An open-loop coding in a perceptually weighted domain, provides an alternative to analysis-by-synthesis to obtain a perceptual weighting of the coding noise. When compared with analysis-by-synthesis this method provides an advantageous compromise between voice quality and computational complexity of the proposed scheme. The open-loop coding in a perceptually weighted domain is described later in this description.

[0044] Encoder

[0045] In the embodiment of FIG. 1, the input to the encoder is the digital signal 125. This signal can take the format of 16 bit uniform pulse code modulation (PCM) sampled at 8 kHz and with a direct current (DC) component removed. The input is partitioned into blocks of e.g. 240 samples. Each block is subdivided into, e.g. 6, consecutive sub-blocks of, e.g., 40 samples each.

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As disclosed above, paragraph [0043] of Andersen simply states that the principle of its invention complies with an open-loop analysis-by-synthesis approach as well as a closed-loop analysis-by-synthesis approach. However, Andersen does not remotely disclose using an adaptive separation component having a filter cut-off frequency to determine a voiced portion and a noisy portion for the purpose of deciding which portion of the speech signal is for waveform matching and which portion of the speech signal is not for waveform matching. Even more, the Office Action states that Andersen discloses a cut-off frequency of above 4 KHz with reference to 8 KHz at paragraph [0045] of Andersen. However, it is respectfully submitted that the reference to 8 KHz at paragraph [0045] of Andersen is to the sampling rate and not to a cut-off-frequency for decomposing the speech signal to determine a voiced portion and a noisy portion for the purpose of deciding which portion of the speech signal is for waveform matching and which portion of the speech signal is not for waveform matching.

In addition, Zinser and Tucker have no disclosure regarding decomposition of the signal for determining a voiced portion and a noisy portion for the purpose of deciding which portion of the speech signal is for waveform matching and which portion of the speech signal is not for waveform matching. Rather, the Office Action relies on Zinser and Tucker for showing use of an index for cut-off frequency and a cut-off frequency of 4 KHz.

Accordingly, applicant respectfully submits that claim 1 is patentably distinguishable over the cited references, and should be allowed. Further, claims 1-5, 7-11, 13, 15 and 48 depend from claim 1, and should be allowed at least for the same reasons stated above. Also, independent claims 17, 33 and 40 include limitations similar to those of claim 1, and should be allowed for similar reasons. Claims 18-21, 23-27, 29, 31, 34-36, 39, 41-43, 46, 51, 53 and 55 depend from claims 17, 33 and 40, and should also be allowed.

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B. Rejection of Claims 2 and 18 under 35 USC § 103(a)

The Examiner has rejected claims 2 and 18, under 35 USC § 103(a), as being unpatentable over Bergstrom in view of Andersen, Zinser and Tucker, and further in view of Accardi, et al. (PGPUB 2005/0055219) ("Accardi").

It is respectfully submitted that, as explained above, dependent claims 2 and 18 should also be allowed at least for the reasons stated above in conjunction with patentability of the independent claims.

C. Rejection of Claims 6 and 22 under 35 USC § 103(a)

The Examiner has rejected claims 6 and 22, under 35 USC § 103(a), as being unpatentable over Bergstrom in view of Andersen, Zinser and Tucker, and further in view of Gigi (USPN 6,453,283) ("Gigi").

It is respectfully submitted that, as explained above, dependent claims 6 and 22 should also be allowed at least for the reasons stated above in conjunction with patentability of the independent claims.

D. Rejection of Claims 49, 52, 54 and 56 under 35 USC § 103(a)

The Examiner has rejected claims 49, 52, 54 and 56, under 35 USC § 103(a), as being unpatentable over Bergstrom in view of Andersen, Zinser and Tucker, and further in view of Li, et al. (PGPUB 2007/0110042) ("Li").

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It is respectfully submitted that, as explained above, dependent claims 49, 52, 54 and 56 should also be allowed at least for the reasons stated above in conjunction with patentability of the independent claims.

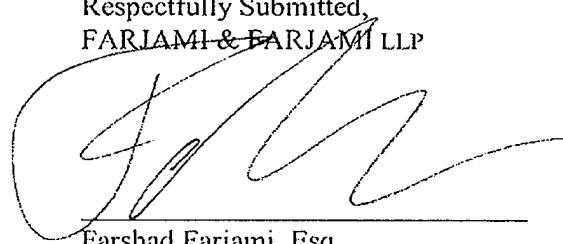
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E. Conclusion

Based on the foregoing reasons, an early Notice of Allowance directed to all claims 1-11, 13, 15, 17-27, 29, 31, 33-36, 39-43, 46, 48, 49 and 51-56 pending in the present application is respectfully requested.

Respectfully Submitted,
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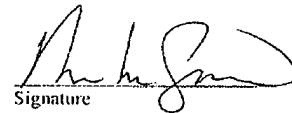
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